IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

In re Patent Application of

Masaki HIROSE, et al.

Application No.: 10/560,153

Filed: March 5, 2007

For: INFORMATION PROCESS APPARATUS AND METHOD, PROGRAM RECORD MEDIUM, AND PROGRAM

Group Art Unit: 2164

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SUPPLEMENTAL APPEAL BRIEF

Mail Stop Appeal Briefs-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450.

August 26, 2010

Sir/Madam:

This Appeal Brief is submitted in response to the Notice of Non-Compliant Appeal Brief and is from the decision of the Examiner dated March 4, 2010 (Paper No. 20100227), in which claims 8-13 were finally rejected. Claims 8-13 are reproduced in the claims appendix of this brief. The Government fee for filing the Brief was paid on July 27, 2010. The Commissioner is hereby authorized to charge any additional appropriate fees under 37 C.F.R. §§ 1.16, 1.17 and

1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 50-0320.

Table of Contents

I. REAL PARTY IN INTEREST

The present application is assigned to Sony Corporation and Matsushita Electric Industrial Company, Ltd., who are the real parties of interest.

II. RELATED APPEALS AND INTERFERENCES

There are no known currently pending related appeals or interferences in the subject application.

III. STATUS OF CLAIMS

Claims 8-13 are pending in the subject application and are being appealed. Claims 1-7 were cancelled in a Preliminary Amendment when the application was filed.

IV. STATUS OF AMENDMENTS

Claims 8-13 were amended in the response to the final rejection filed May 19, 2010. In the Advisory Action dated May 26, 2010 (Paper No. 20100522) the Examiner indicated in Box 7b that the proposed amendments will be entered. Thus claims 8-13 as filed on May 19, 2010 are being appealed.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The information obtaining means is shown in Figure 3 as reference numeral 102. The generation means is shown in Figure 3 as reference numeral 104. Registration means is shown in Figure 3 as reference number 5. Successive reproduction means is shown in Figure 4 as reference numeral 112. The process of loading the recording medium and reading the index file or clip management file is shown in Figures 15 and 18 discussed below.

The present invention relates to an information process apparatus and method, a program record medium, and a program that allow data to be smoothly reproduced (page 1, lines 5-10).

Background Art (page 1, line 11)

When a content is reproduced from a record medium, data of a content are accessed according to the position of the pointer to "content" of the content management table (page 2, lines 4-7).

However, when reproduction information with which a content is reproduced is obtained from data, it takes a time to obtain the reproduction information for example it takes a time to interpret the data. Thus, data of a content to be reproduced may not be reproduced at the reproduction time (page 2, lines 14-19).

When all contents recorded on the record medium are successively and smoothly reproduced, after data are reproduced from a particular position, it is necessary to obtain reproduction information from the next data recorded in an area apart from the particular position. In this case, when the reproduction target that the reproduction apparatus reproduces is moved from a particular area to the other area, a seek will take place (page 2, line 20 through page 3, line 1).

When the seek time necessary to perform the seek is long, since not only the seek time, but time for obtaining the reproduction time from the data is required, data of a content to be reproduced next cannot be read at the reproduction time. Thus, the reproduction will stops. In other words, it was difficult to continuously and smoothly reproduce data of a plurality of contents (page 3, lines 2-9).

Disclosure of the Invention (page 3, line 10)

The present invention is made from the foregoing of point of view and to smoothly reproduce data (page 3, lines 11-13).

As shown in FIG. 1, the video program creation support system 1 is composed of a planning terminal device 11 with which a video program is planned, a network 12 to which the planning terminal device 11 is connected, a news collection terminal device 13 connected to the network 12, a photographing device 14 that composes the news collection terminal device 13, a field PC/PDA (Personal Computer/Personal Digital Assistants) 15 (hereinafter referred to as the field PC/PDA 15), an editing terminal device 16 connected to the network 12, and an optical disc 17 that is a record medium (page 13, lines 15-26).

A plurality of clips recorded on the optical disc 17 by the photographing device 14 are managed with an index file that totally manages them (the index file will be described later with reference to FIG. 5) and a clip information file that manages video data, audio data, and so forth that compose a clip (page 16, line 23 through page 17, line 1).

The photographing device 14 displays video data and so forth of a clip recorded on the optical disc 17 in a predetermined display section or the like according to the index file or the clip information file so that the photographing staff member can check whether he or she has took a picture according to the creation command information. In addition, the photographing device 14 is capable of successively displaying a plurality of clips recorded on the optical disc 17 in the predetermined display section or the like according to the index file or the clip information file as if video data recorded on a tape were successively reproduced so that the photographing staff member can successively check a plurality of scenes that he or she has taken (page 17, lines 4-18).

The record medium on which the photographing device 14 records video contents and so forth are not limited to the foregoing optical disc 17. Instead, any type of a record medium may be used (page 19, lines 8-10).

FIG. 2 shows an example of the detailed structure of the photographing device 14 shown in FIG. 1. In FIG. 2, a CPU (Central Processing Unit) 51 of the photographing device 14 executes various processes according to a program stored in a ROM (Read Only Memory) 52. When necessary, a RAM (Random Access Memory) 53 stores data, a program, and so forth that the CPU 51 needs to execute various processes (page 24, lines 15-22).

A record control section 54 controls the recording of video data, audio data, low resolution data, and so forth supplied from an encoder/decoder section 56 or video data, audio data, low resolution data, and so forth stored in a storage section 64 to the optical disc 17 through a drive 66 according to a file system of the optical disc 17. Details of the file system will be described later with reference to FIG. 5 (page 24, line 23 through page 25, line 4).

<u>Claim 8</u>

FIG. 3 shows an example of the structure of the record control section 54 shown in FIG. 2. In the example shown in FIG. 3, the record control section 54 is composed of a data obtainment section 101, an information obtainment section 102, a data generation section 103, a clip generation section 104, an index file update section 105, a data record section 106, and a table record section 107 (page 28, line 23 through page 29, line 3).

The data obtainment section 101 obtains video data, audio data, low resolution data, and so forth from the encoder/decoder section 56 or the storage section 64 and supplies them to the data generation section 103. When the CPU 51 causes the record control section 54 to start recording data, the information obtainment section 102 obtains parameter information from the

RAM 53 and supplies the parameter information to the data generation section 103, the clip generation section 104, and the index file generation section 105. The parameter information is setup information for the photographing device 14 and used to input (photograph and record) video data and audio data from the input section 62. The parameter information is reproduction information such as information about resolution of video data and audio data that are input and the type of codec (encoding method). The parameter information has been set up in the photographing device 14 or is set up by the photographing staff member or the like and stored in the RAM 53 through the operation section 61 (page 29, lines 4-24).

When the parameter information has been input from the information obtainment section 102 to the clip generation section 104, it generates a clip directory to generate a new clip for data that will be input. In addition, the clip generation section 104 generates a clip information file that describes attribute information of each type of essence data necessary to reproduce each type of essence data generated by the data generation section 103 according to the parameter information supplied from the information obtainment section 102 and outputs the generated clip information file to the table record section 107 (page 30, lines 12-23).

The index file update section 105 generates clip elements corresponding to the generated clip according to the parameter information supplied from the information obtainment section 102 and updates the index file that has been read from the optical disc 17 and stored in the RAM 53 with the clip elements. The generated clip elements describe clip attribute information necessary to reproduce the clip. The index file update section 105 outputs the updated index file to the table record section 107 (page 30, line 24 through page 31, line 6).

FIG. 4 shows an example of the structure of the reproduction control section 55 shown in FIG. 2. In the example shown in FIG. 4, the reproduction control section 55 is composed of a

clip reproduction section 111, a tape reproduction section 112, an index file information obtainment section 113 and a clip information obtainment section 114. The clip reproduction section 111 and the tape reproduction section 112 of the reproduction control section 55 control the index file information obtainment section 113 or the clip information obtainment section 114 according to a clip reproduction start command or a tape reproduction start command issued from the CPU 51 and read data from the optical disc 17 (page 31, line 15 though page 31, line 1).

Although the clip reproduction is the reproduction for one clip, the tape reproduction is a successive clip reproduction process that successively reproduces all clips from the optical disc 17 in the order of which they were recorded as if data were reproduced from a tape (page 32, lines 2-7).

FIG. 5 shows an example of the structure of the file system of the optical disc 17. In FIG. 5, under a root directory (ROOT) 131, a PROAV directory 132 is placed. Under the PROAV directory 132, directories for information about essence data of video data, audio data, and so forth, an edit list that represents an edit result of essence data, and so forth are placed. Under the root directory 131, construction table data and so forth (not shown) are placed (page 34, lines 5-13).

Under the PROAV directory 132, a disc meta file (DISCMETA.XML) 133 that is a file that contains titles and comments of all essence data recorded on the optical disc 17 and information such as a path to video data corresponding to a representative picture as a representative frame of all video data recorded on the optical disc 17, an index file (INDEXXML) 134 that contains management information and so forth with which all clips and edit lists recorded on the optical disc 17 are managed, and an index file (INDEX.BUP) 135 are placed. The index file 135 is a copy of the index file (INDEXXML) 134. With the two files, the

reliability is improved (page 34, lines 14-26).

Besides these files, under the PROAV directory 132, a clip root directory (CLPR) 138 whose lower directory contains data of clips and an edit list root directory (EDTR) 139 whose lower directory contains data of edit lists are placed (page 35, lines 11-15).

Under the clip directory 138, data of clips recorded on the optical disc 17 are managed with directories corresponding to clips. For example, in FIG. 5, data of three clips are managed with three directories that are a clip directory (C0001) 141, a clip directory (C0002) 142, and a clip directory (C0003) 143 (page 35, lines 16-22).

Fig. 8 shows an exampled of the index file 134 shown in Fig. 5 (page 44, lines 11-12).

The clip table of the index file describes umid of the essence data that composes the clip, information about the file name conversion table of the essence data, and attribute information (type of codec and resolution) necessary to reproduce the essence data that compose the clip. Thus, when only the index file is read, information necessary to reproduce the clip is obtained. Thus, when only essence data that composes a clip is read from the optical disc 17 according to the obtained file name, the clip can be reproduced. In other words, the process time that takes after the reproduction is designated until the reproduction is preformed is shortened (page 50, lines 3-9).

Next, the clip information file of the file system of the optical disc 17 will be described. As described above, the clip information file contains management information with which each clip recorded on the optical disc 17 is managed. To allow the clip information file to have versatility, the clip information file is described in SMIL (Synchronized Multimedia Integration Language).in the XML format (page 60, lines 14-21).

The clip information file 151 shown in FIG. 13 and FIG. 14 represents that the video data file 152 and the audio data files 153 to 160 or the low resolution data file 161 is selected and reproduced along with the frame meta data file 163 (page 66, lines 12-16).

The clip information file contains additional information of essence data necessary to reproduce the essence data that compose a clip. Thus, when the clip information file is referenced, additional information of essence data can be readily obtained as information necessary to reproduce the essence data without need to read the essence data and interpret information necessary to reproduce the essence data (page 66, lines 17-25).

Next, with reference to a flow chart shown in FIG. 15, a read process for the index file will be described. The read process for the index file is executed when the optical disc 17 is loaded into the photographing device 14 (page 67, lines 5-9).

The photographing staff member loads the optical disc 17 into the drive 66 to record video data and audio data that are photographed by the photographing device 14 or to reproduce video data and audio data from the optical disc 17 (page 67, lines 10-14).

At step SI, the CPU 51 waits until the optical disc 17 has been loaded into the drive 66. When the CPU 51 has determined that the optical disc 17 had been loaded into the drive 66, the flow advances to step S2. At step S2, the CPU 51 controls the drive 66 to read the index file (for example, the index file 134) from the optical disc 17, stores (loads) the index file to the RAM 53, and completes the read process for the index file (page 67, lines 15-23).

Thus, when the optical disc 17 is loaded into the drive 66 of the photographing device 14, the index file is read from the optical disc 17 and stored to the RAM 53. Thereafter, the data write process and data read process for the optical disc 17 are executed according to the index

file stored in the RAM 53. Thus, data recorded on the optical disc 17 can be quickly accessed (page 67, line 24 through page 68, line 4).

Next, with reference to a flow chart shown in FIG. 18, a clip reproduction process of the photographing device 14 will be described. In FIG. 18, the case of which a clip is reproduced according to the clip information file will be described (page 76, lines 1-5).

The photographing staff member operates a button or the like of the operation section 61 to check photographed clips and causes the photographing device 14 to reproduce his or her desired clip. As a result, the operation section 61 outputs a clip reproduction command signal to the CPU 51. When the CPU 51 has input the clip reproduction command signal through the operation section 61, the CPU 51 causes the reproduction control section 55 to start reproducing the clip from the optical disc 17 (page 76, lines 6-15).

At step S101 shown in FIG. 18, the clip reproduction section 111 waits until the clip reproduction start command has been issued from the CPU 51. When the clip reproduction section 111 has determined that the clip reproduction start command had been issued from the CPU 51, the flow advances to step S102. At step S102, the clip reproduction section 111 controls the clip information obtainment section 114 to read a designated clip information file (for example, the clip information file 151) from the optical disc 17, through the drive 66. The clip information obtainment section 114 stores (loads) the clip information file to the RAM 53. Thereafter, the flow advances to step S103 (page 76, line 16 through page 77, line 1).

At step S103, the clip reproduction section 111 controls the clip information obtainment section 114 to obtain umid (for example, [umid: 060A2B340l0l0 I050l0l0Dl2l30000000l23456789ABCDEF0l23456789 ABCDEF], line 7, FIG. 13) and attribute information (for example, [type="IMX50", line 8, FIG. 13, [type="LPCMI6" trackDst="CHl",

line 11, and so forth) of essence data to be reproduced from the clip information file stored in the RAM 53. The clip reproduction section 111 controls the index file information obtainment section 113 to obtain the file name (for example, [file="COOOlV01.MXF") corresponding to the obtained umid from the clip table of the index file stored in the RAM 53. Thereafter, the flow advances to step S104 (page 77, lines 2-15).

At step S104, the clip reproduction section 111 controls the drive 66, the encoder/decoder section 56, and the output section 63 to reproduce essence data from the optical disc 17 according to the attribute information and the file name obtained by the clip information obtainment section 114 and completes the clip reproduction process. Specifically, the drive 66 reads essence data according to the file name under the control of the clip reproduction section 111 and supplies the essence data to the encoder/decoder section 56. The encoder/decoder section 56 decodes the essence data according to the attribute information supplied from the clip reproduction section 111 and outputs the decoded data to the monitor and speaker that compose the output section 63 (page 77, line 16 through page 78, line 3).

As described above, since attribute information necessary to reproduce essence data can be obtained from a clip information file, it is not necessary to obtain necessary information for the reproduction from essence data. Thus, the process time is shortened (page 78, lines 4-9).

<u>Claim 11</u>

FIG. 3 shows an example of the structure of the record control section 54 shown in FIG. 2. In the example shown in FIG. 3, the record control section 54 is composed of a data obtainment section 101, an information obtainment section 102, a data generation section 103, a clip generation section 104, an index file update section 105, a data record section 106, and a table record section 107 (page 28, line 23 through page 29, line 3).

The data obtainment section 101 obtains video data, audio data, low resolution data, and so forth from the encoder/decoder section 56 or the storage section 64 and supplies them to the data generation section 103. When the CPU 51 causes the record control section 54 to start recording data, the information obtainment section 102 obtains parameter information from the RAM 53 and supplies the parameter information to the data generation section 103, the clip generation section 104, and the index file generation section 105. The parameter information is setup information for the photographing device 14 and used to input (photograph and record) video data and audio data from the input section 62. The parameter information is reproduction information such as information about resolution of video data and audio data that are input and the type of codec (encoding method). The parameter information has been set up in the photographing device 14 or is set up by the photographing staff member or the like and stored in the RAM 53 through the operation section 61 (page 29, lines 4-24).

When the parameter information has been input from the information obtainment section 102 to the clip generation section 104, it generates a clip directory to generate a new clip for data that will be input. In addition, the clip generation section 104 generates a clip information file that describes attribute information of each type of essence data necessary to reproduce each type of essence data generated by the data generation section 103 according to the parameter information supplied from the information obtainment section 102 and outputs the generated clip information file to the table record section 107 (page 30, lines 12-23).

The index file update section 105 generates clip elements corresponding to the generated clip according to the parameter information supplied from the information obtainment section 102 and updates the index file that has been read from the optical disc 17 and stored in the RAM 53 with the clip elements. The generated clip elements describe clip attribute information

necessary to reproduce the clip. The index file update section 105 outputs the updated index file to the table record section 107 (page 30, line 24 through page 31, line 6).

FIG. 4 shows an example of the structure of the reproduction control section 55 shown in FIG. 2. In the example shown in FIG. 4, the reproduction control section 55 is composed of a clip reproduction section 111, a tape reproduction section 112, an index file information obtainment section 113 and a clip information obtainment section 114. The clip reproduction section 111 and the tape reproduction section 112 of the reproduction control section 55 control the index file information obtainment section 113 or the clip information obtainment section 114 according to a clip reproduction start command or a tape reproduction start command issued from the CPU 51 and read data from the optical disc 17 (page 31, line 15 though page 31, line 1).

Although the clip reproduction is the reproduction for one clip, the tape reproduction is a successive clip reproduction process that successively reproduces all clips from the optical disc 17 in the order of which they were recorded as if data were reproduced from a tape (page 32, lines 2-7).

FIG. 5 shows an example of the structure of the file system of the optical disc 17. In FIG. 5, under a root directory (ROOT) 131, a PROAV directory 132 is placed. Under the PROAV directory 132, directories for information about essence data of video data, audio data, and so forth, an edit list that represents an edit result of essence data, and so forth are placed. Under the root directory 131, construction table data and so forth (not shown) are placed (page 34, lines 5-13).

Under the PROAV directory 132, a disc meta file (DISCMETA.XML) 133 that is a file that contains titles and comments of all essence data recorded on the optical disc 17 and

information such as a path to video data corresponding to a representative picture as a representative frame of all video data recorded on the optical disc 17, an index file (INDEXXML) 134 that contains management information and so forth with which all clips and edit lists recorded on the optical disc 17 are managed, and an index file (INDEX.BUP) 135 are placed. The index file 135 is a copy of the index file (INDEXXML) 134. With the two files, the reliability is improved (page 34, lines 14-26).

Besides these files, under the PROAV directory 132, a clip root directory (CLPR) 138 whose lower directory contains data of clips and an edit list root directory (EDTR) 139 whose lower directory contains data of edit lists are placed (page 35, lines 11-15).

Under the clip directory 138, data of clips recorded on the optical disc 17 are managed with directories corresponding to clips. For example, in FIG. 5, data of three clips are managed with three directories that are a clip directory (C0001) 141, a clip directory (C0002) 142, and a clip directory (C0003) 143 (page 35, lines 16-22).

Fig. 8 shows an exampled of the index file 134 shown in Fig. 5 (page 44, lines 11-12).

The clip table of the index file describes umid of the essence data that composes the clip, information about the file name conversion table of the essence data, and attribute information (type of codec and resolution) necessary to reproduce the essence data that compose the clip. Thus, when only the index file is read, information necessary to reproduce the clip is obtained. Thus, when only essence data that composes a clip is read from the optical disc 17 according to the obtained file name, the clip can be reproduced. In other words, the process time that takes after the reproduction is designated until the reproduction is preformed is shortened (page 50, lines 3-9).

Next, the clip information file of the file system of the optical disc 17 will be described. As described above, the clip information file contains management information with which each clip recorded on the optical disc 17 is managed. To allow the clip information file to have versatility, the clip information file is described in SMIL (Synchronized Multimedia Integration Language).in the XML format (page 60, lines 14-21).

The clip information file 151 shown in FIG. 13 and FIG. 14 represents that the video data file 152 and the audio data files 153 to 160 or the low resolution data file 161 is selected and reproduced along with the frame meta data file 163 (page 66, lines 12-16).

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At step SI, the CPU 51 waits until the optical disc 17 has been loaded into the drive 66. When the CPU 51 has determined that the optical disc 17 had been loaded into the drive 66, the flow advances to step S2. At step S2, the CPU 51 controls the drive 66 to read the index file (for

example, the index file 134) from the optical disc 17, stores (loads) the index file to the RAM 53, and completes the read process for the index file (page 67, lines 15-23).

Thus, when the optical disc 17 is loaded into the drive 66 of the photographing device 14, the index file is read from the optical disc 17 and stored to the RAM 53. Thereafter, the data write process and data read process for the optical disc 17 are executed according to the index file stored in the RAM 53. Thus, data recorded on the optical disc 17 can be quickly accessed (page 67, line 24 through page 68, line 4).

Next, with reference to a flow chart shown in FIG. 18, a clip reproduction process of the photographing device 14 will be described. In FIG. 18, the case of which a clip is reproduced according to the clip information file will be described (page 76, lines 1-5).

The photographing staff member operates a button or the like of the operation section 61 to check photographed clips and causes the photographing device 14 to reproduce his or her desired clip. As a result, the operation section 61 outputs a clip reproduction command signal to the CPU 51. When the CPU 51 has input the clip reproduction command signal through the operation section 61, the CPU 51 causes the reproduction control section 55 to start reproducing the clip from the optical disc 17 (page 76, lines 6-15).

At step S101 shown in FIG. 18, the clip reproduction section 111 waits until the clip reproduction start command has been issued from the CPU 51. When the clip reproduction section 111 has determined that the clip reproduction start command had been issued from the CPU 51, the flow advances to step S102. At step S102, the clip reproduction section 111 controls the clip information obtainment section 114 to read a designated clip information file (for example, the clip information file 151) from the optical disc 17, through the drive 66. The clip

information obtainment section 114 stores (loads) the clip information file to the RAM 53. Thereafter, the flow advances to step S103 (page 76, line 16 through page 77, line 1).

At step S103, the clip reproduction section 111 controls the clip information obtainment section 114 to obtain umid (for example, [umid: 060A2B340l0l0 I050l0l0Dl2l30000000l23456789ABCDEF0l23456789 ABCDEF], line 7, FIG. 13) and attribute information (for example, [type="IMX50", line 8, FIG. 13, [type="LPCMI6" trackDst="CHl", line 11, and so forth) of essence data to be reproduced from the clip information file stored in the RAM 53. The clip reproduction section 111 controls the index file information obtainment section 113 to obtain the file name (for example, [file="COOOlV01.MXF") corresponding to the obtained umid from the clip table of the index file stored in the RAM 53. Thereafter, the flow advances to step S104 (page 77, lines 2-15).

At step S104, the clip reproduction section 111 controls the drive 66, the encoder/decoder section 56, and the output section 63 to reproduce essence data from the optical disc 17 according to the attribute information and the file name obtained by the clip information obtainment section 114 and completes the clip reproduction process. Specifically, the drive 66 reads essence data according to the file name under the control of the clip reproduction section 111 and supplies the essence data to the encoder/decoder section 56. The encoder/decoder section 56 decodes the essence data according to the attribute information supplied from the clip reproduction section 111 and outputs the decoded data to the monitor and speaker that compose the output section 63 (page 77, line 16 through page 78, line 3).

As described above, since attribute information necessary to reproduce essence data can be obtained from a clip information file, it is not necessary to obtain necessary information for the reproduction from essence data. Thus, the process time is shortened (page 78, lines 4-9).

Claim 12

FIG. 3 shows an example of the structure of the record control section 54 shown in FIG. 2. In the example shown in FIG. 3, the record control section 54 is composed of a data obtainment section 101, an information obtainment section 102, a data generation section 103, a clip generation section 104, an index file update section 105, a data record section 106, and a table record section 107 (page 28, line 23 through page 29, line 3).

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When the parameter information has been input from the information obtainment section 102 to the clip generation section 104, it generates a clip directory to generate a new clip for data that will be input. In addition, the clip generation section 104 generates a clip information

file that describes attribute information of each type of essence data necessary to reproduce each type of essence data generated by the data generation section 103 according to the parameter information supplied from the information obtainment section 102 and outputs the generated clip information file to the table record section 107 (page 30, lines 12-23).

The index file update section 105 generates clip elements corresponding to the generated clip according to the parameter information supplied from the information obtainment section 102 and updates the index file that has been read from the optical disc 17 and stored in the RAM 53 with the clip elements. The generated clip elements describe clip attribute information necessary to reproduce the clip. The index file update section 105 outputs the updated index file to the table record section 107 (page 30, line 24 through page 31, line 6).

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FIG. 5 shows an example of the structure of the file system of the optical disc 17. In FIG. 5, under a root directory (ROOT) 131, a PROAV directory 132 is placed. Under the PROAV directory 132, directories for information about essence data of video data, audio data, and so forth, an edit list that represents an edit result of essence data, and so forth are placed. Under the root directory 131, construction table data and so forth (not shown) are placed (page 34, lines 5-13).

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The clip table of the index file describes umid of the essence data that composes the clip, information about the file name conversion table of the essence data, and attribute information (type of codec and resolution) necessary to reproduce the essence data that compose the clip. Thus, when only the index file is read, information necessary to reproduce the clip is obtained. Thus, when only essence data that composes a clip is read from the optical disc 17 according to the obtained file name, the clip can be reproduced. In other words, the process time that takes after the reproduction is designated until the reproduction is preformed is shortened (page 50, lines 3-9).

Next, the clip information file of the file system of the optical disc 17 will be described. As described above, the clip information file contains management information with which each clip recorded on the optical disc 17 is managed. To allow the clip information file to have versatility, the clip information file is described in SMIL (Synchronized Multimedia Integration Language).in the XML format (page 60, lines 14-21).

The clip information file 151 shown in FIG. 13 and FIG. 14 represents that the video data file 152 and the audio data files 153 to 160 or the low resolution data file 161 is selected and reproduced along with the frame meta data file 163 (page 66, lines 12-16).

The clip information file contains additional information of essence data necessary to reproduce the essence data that compose a clip. Thus, when the clip information file is referenced, additional information of essence data can be readily obtained as information necessary to reproduce the essence data without need to read the essence data and interpret information necessary to reproduce the essence data (page 66, lines 17-25).

Next, with reference to a flow chart shown in FIG. 15, a read process for the index file will be described. The read process for the index file is executed when the optical disc 17 is loaded into the photographing device 14 (page 67, lines 5-9).

The photographing staff member loads the optical disc 17 into the drive 66 to record video data and audio data that are photographed by the photographing device 14 or to reproduce video data and audio data from the optical disc 17 (page 67, lines 10-14).

At step SI, the CPU 51 waits until the optical disc 17 has been loaded into the drive 66. When the CPU 51 has determined that the optical disc 17 had been loaded into the drive 66, the flow advances to step S2. At step S2, the CPU 51 controls the drive 66 to read the index file (for example, the index file 134) from the optical disc 17, stores (loads) the index file to the RAM 53, and completes the read process for the index file (page 67, lines 15-23).

Thus, when the optical disc 17 is loaded into the drive 66 of the photographing device 14, the index file is read from the optical disc 17 and stored to the RAM 53. Thereafter, the data write process and data read process for the optical disc 17 are executed according to the index file stored in the RAM 53. Thus, data recorded on the optical disc 17 can be quickly accessed (page 67, line 24 through page 68, line 4).

Next, with reference to a flow chart shown in FIG. 18, a clip reproduction process of the photographing device 14 will be described. In FIG. 18, the case of which a clip is reproduced according to the clip information file will be described (page 76, lines 1-5).

The photographing staff member operates a button or the like of the operation section 61 to check photographed clips and causes the photographing device 14 to reproduce his or her desired clip. As a result, the operation section 61 outputs a clip reproduction command signal to the CPU 51. When the CPU 51 has input the clip reproduction command signal through the

operation section 61, the CPU 51 causes the reproduction control section 55 to start reproducing the clip from the optical disc 17 (page 76, lines 6-15).

At step S101 shown in FIG. 18, the clip reproduction section 111 waits until the clip reproduction start command has been issued from the CPU 51. When the clip reproduction section 111 has determined that the clip reproduction start command had been issued from the CPU 51, the flow advances to step S102. At step S102, the clip reproduction section 111 controls the clip information obtainment section 114 to read a designated clip information file (for example, the clip information file 151) from the optical disc 17, through the drive 66. The clip information obtainment section 114 stores (loads) the clip information file to the RAM 53. Thereafter, the flow advances to step S103 (page 76, line 16 through page 77, line 1).

At step S103, the clip reproduction section 111 controls the clip information obtainment section 114 to obtain umid (for example, [umid: 060A2B340l0l0 I050l0l0Dl2l3000000012345678 9ABCDEF0l23456789 ABCDEF], line 7, FIG. 13) and attribute information (for example, [type="IMX50", line 8, FIG. 13, [type="LPCMI6" trackDst="CHl", line 11, and so forth) of essence data to be reproduced from the clip information file stored in the RAM 53. The clip reproduction section 111 controls the index file information obtainment section 113 to obtain the file name (for example, [file="COOOlV01.MXF") corresponding to the obtained umid from the clip table of the index file stored in the RAM 53. Thereafter, the flow advances to step S104 (page 77, lines 2-15).

At step S104, the clip reproduction section 111 controls the drive 66, the encoder/decoder section 56, and the output section 63 to reproduce essence data from the optical disc 17 according to the attribute information and the file name obtained by the clip information

obtainment section 114 and completes the clip reproduction process. Specifically, the drive 66 reads essence data according to the file name under the control of the clip reproduction section 111 and supplies the essence data to the encoder/decoder section 56. The encoder/decoder section 56 decodes the essence data according to the attribute information supplied from the clip reproduction section 111 and outputs the decoded data to the monitor and speaker that compose the output section 63 (page 77, line 16 through page 78, line 3).

As described above, since attribute information necessary to reproduce essence data can be obtained from a clip information file, it is not necessary to obtain necessary information for the reproduction from essence data. Thus, the process time is shortened (page 78, lines 4-9).

Claim 13

FIG. 3 shows an example of the structure of the record control section 54 shown in FIG. 2. In the example shown in FIG. 3, the record control section 54 is composed of a data obtainment section 101, an information obtainment section 102, a data generation section 103, a clip generation section 104, an index file update section 105, a data record section 106, and a table record section 107 (page 28, line 23 through page 29, line 3).

The data obtainment section 101 obtains video data, audio data, low resolution data, and so forth from the encoder/decoder section 56 or the storage section 64 and supplies them to the data generation section 103. When the CPU 51 causes the record control section 54 to start recording data, the information obtainment section 102 obtains parameter information from the RAM 53 and supplies the parameter information to the data generation section 103, the clip generation section 104, and the index file generation section 105. The parameter information is setup information for the photographing device 14 and used to input (photograph and record) video data and audio data from the input section 62. The parameter information is reproduction

information such as information about resolution of video data and audio data that are input and the type of codec (encoding method). The parameter information has been set up in the photographing device 14 or is set up by the photographing staff member or the like and stored in the RAM 53 through the operation section 61 (page 29, lines 4-24).

When the parameter information has been input from the information obtainment section 102 to the clip generation section 104, it generates a clip directory to generate a new clip for data that will be input. In addition, the clip generation section 104 generates a clip information file that describes attribute information of each type of essence data necessary to reproduce each type of essence data generated by the data generation section 103 according to the parameter information supplied from the information obtainment section 102 and outputs the generated clip information file to the table record section 107 (page 30, lines 12-23).

The index file update section 105 generates clip elements corresponding to the generated clip according to the parameter information supplied from the information obtainment section 102 and updates the index file that has been read from the optical disc 17 and stored in the RAM 53 with the clip elements. The generated clip elements describe clip attribute information necessary to reproduce the clip. The index file update section 105 outputs the updated index file to the table record section 107 (page 30, line 24 through page 31, line 6).

FIG. 4 shows an example of the structure of the reproduction control section 55 shown in FIG. 2. In the example shown in FIG. 4, the reproduction control section 55 is composed of a clip reproduction section 111, a tape reproduction section 112, an index file information obtainment section 113 and a clip information obtainment section 114. The clip reproduction section 111 and the tape reproduction section 112 of the reproduction control section 55 control the index file information obtainment section 113 or the clip information obtainment section 114

according to a clip reproduction start command or a tape reproduction start command issued from the CPU 51 and read data from the optical disc 17 (page 31, line 15 though page 31, line 1).

Although the clip reproduction is the reproduction for one clip, the tape reproduction is a successive clip reproduction process that successively reproduces all clips from the optical disc 17 in the order of which they were recorded as if data were reproduced from a tape (page 32, lines 2-7).

FIG. 5 shows an example of the structure of the file system of the optical disc 17. In FIG. 5, under a root directory (ROOT) 131, a PROAV directory 132 is placed. Under the PROAV directory 132, directories for information about essence data of video data, audio data, and so forth, an edit list that represents an edit result of essence data, and so forth are placed. Under the root directory 131, construction table data and so forth (not shown) are placed (page 34, lines 5-13).

Under the PROAV directory 132, a disc meta file (DISCMETA.XML) 133 that is a file that contains titles and comments of all essence data recorded on the optical disc 17 and information such as a path to video data corresponding to a representative picture as a representative frame of all video data recorded on the optical disc 17, an index file (INDEXXML) 134 that contains management information and so forth with which all clips and edit lists recorded on the optical disc 17 are managed, and an index file (INDEX.BUP) 135 are placed. The index file 135 is a copy of the index file (INDEXXML) 134. With the two files, the reliability is improved (page 34, lines 14-26).

Besides these files, under the PROAV directory 132, a clip root directory (CLPR) 138 whose lower directory contains data of clips and an edit list root directory (EDTR) 139 whose lower directory contains data of edit lists are placed (page 35, lines 11-15).

Under the clip directory 138, data of clips recorded on the optical disc 17 are managed with directories corresponding to clips. For example, in FIG. 5, data of three clips are managed with three directories that are a clip directory (C0001) 141, a clip directory (C0002) 142, and a clip directory (C0003) 143 (page 35, lines 16-22).

Fig. 8 shows an exampled of the index file 134 shown in Fig. 5 (page 44, lines 11-12).

The clip table of the index file describes umid of the essence data that composes the clip, information about the file name conversion table of the essence data, and attribute information (type of codec and resolution) necessary to reproduce the essence data that compose the clip. Thus, when only the index file is read, information necessary to reproduce the clip is obtained. Thus, when only essence data that composes a clip is read from the optical disc 17 according to the obtained file name, the clip can be reproduced. In other words, the process time that takes after the reproduction is designated until the reproduction is preformed is shortened (page 50, lines 3-9).

Next, the clip information file of the file system of the optical disc 17 will be described. As described above, the clip information file contains management information with which each clip recorded on the optical disc 17 is managed. To allow the clip information file to have versatility, the clip information file is described in SMIL (Synchronized Multimedia Integration Language).in the XML format (page 60, lines 14-21).

The clip information file 151 shown in FIG. 13 and FIG. 14 represents that the video data file 152 and the audio data files 153 to 160 or the low resolution data file 161 is selected and reproduced along with the frame meta data file 163 (page 66, lines 12-16).

The clip information file contains additional information of essence data necessary to reproduce the essence data that compose a clip. Thus, when the clip information file is

referenced, additional information of essence data can be readily obtained as information necessary to reproduce the essence data without need to read the essence data and interpret information necessary to reproduce the essence data (page 66, lines 17-25).

Next, with reference to a flow chart shown in FIG. 15, a read process for the index file will be described. The read process for the index file is executed when the optical disc 17 is loaded into the photographing device 14 (page 67, lines 5-9).

The photographing staff member loads the optical disc 17 into the drive 66 to record video data and audio data that are photographed by the photographing device 14 or to reproduce video data and audio data from the optical disc 17 (page 67, lines 10-14).

At step SI, the CPU 51 waits until the optical disc 17 has been loaded into the drive 66. When the CPU 51 has determined that the optical disc 17 had been loaded into the drive 66, the flow advances to step S2. At step S2, the CPU 51 controls the drive 66 to read the index file (for example, the index file 134) from the optical disc 17, stores (loads) the index file to the RAM 53, and completes the read process for the index file (page 67, lines 15-23).

Thus, when the optical disc 17 is loaded into the drive 66 of the photographing device 14, the index file is read from the optical disc 17 and stored to the RAM 53. Thereafter, the data write process and data read process for the optical disc 17 are executed according to the index file stored in the RAM 53. Thus, data recorded on the optical disc 17 can be quickly accessed (page 67, line 24 through page 68, line 4).

Next, with reference to a flow chart shown in FIG. 18, a clip reproduction process of the photographing device 14 will be described. In FIG. 18, the case of which a clip is reproduced according to the clip information file will be described (page 76, lines 1-5).

The photographing staff member operates a button or the like of the operation section 61 to check photographed clips and causes the photographing device 14 to reproduce his or her desired clip. As a result, the operation section 61 outputs a clip reproduction command signal to the CPU 51. When the CPU 51 has input the clip reproduction command signal through the operation section 61, the CPU 51 causes the reproduction control section 55 to start reproducing the clip from the optical disc 17 (page 76, lines 6-15).

At step S101 shown in FIG. 18, the clip reproduction section 111 waits until the clip reproduction start command has been issued from the CPU 51. When the clip reproduction section 111 has determined that the clip reproduction start command had been issued from the CPU 51, the flow advances to step S102. At step S102, the clip reproduction section 111 controls the clip information obtainment section 114 to read a designated clip information file (for example, the clip information file 151) from the optical disc 17, through the drive 66. The clip information obtainment section 114 stores (loads) the clip information file to the RAM 53. Thereafter, the flow advances to step S103 (page 76, line 16 through page 77, line 1).

At step S103, the clip reproduction section 111 controls the clip information obtainment section 114 to obtain umid (for example, [umid: 060A2B340l0l0 I050l0l0Dl2l3000000001234567 89ABCDEF0l23456789 ABCDEF], line 7, FIG. 13) and attribute information (for example, [type="IMX50", line 8, FIG. 13, [type="LPCMI6" trackDst="CHl", line 11, and so forth) of essence data to be reproduced from the clip information file stored in the RAM 53. The clip reproduction section 111 controls the index file information obtainment section 113 to obtain the file name (for example, [file="COOOlV01.MXF") corresponding to the obtained umid from the clip table of the index file stored in the RAM 53. Thereafter, the flow advances to step S104 (page 77, lines 2-15).

At step S104, the clip reproduction section 111 controls the drive 66, the encoder/decoder section 56, and the output section 63 to reproduce essence data from the optical disc 17 according to the attribute information and the file name obtained by the clip information obtainment section 114 and completes the clip reproduction process. Specifically, the drive 66 reads essence data according to the file name under the control of the clip reproduction section 111 and supplies the essence data to the encoder/decoder section 56. The encoder/decoder section 56 decodes the essence data according to the attribute information supplied from the clip reproduction section 111 and outputs the decoded data to the monitor and speaker that compose the output section 63 (page 77, line 16 through page 78, line 3).

As described above, since attribute information necessary to reproduce essence data can be obtained from a clip information file, it is not necessary to obtain necessary information for the reproduction from essence data. Thus, the process time is shortened (page 78, lines 4-9).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The issue for review by the Board of Patent Appeals and Interferences is:

1) whether claims 8-13 were properly rejected under 35 U.S.C. § 103 as being unpatentable over *David, et al.* (U.S. Publication No. 2002/0131764) in view of *Takagi, et al.* (U.S. Publication No. 2003/0085997) and further in view of *Um, et al.* (U.S. Publication No. 2003/0138236).

VII. ARGUMENT

Applicants' arguments against the rejection of the claims are as follows:

A. Rejection of claims 8-13 under 35 U.S.C. § 103

Applicants respectfully submit that the combination of *David, et al. Takagi, et al.* and *Um, et al.* does not show, teach or suggest (a) obtaining reproduction information necessary to reproduce data when the data are recorded on a disc-shaped record medium by a photography apparatus, the data being low resolution video data and video and audio data for each clip, (b) generating a plurality of clip management files with which data that compose each clip that is a predetermined structural unit of the data are managed, each clip management file describing for one clip the obtained reproduction information of data that composed the clip and an identifier that uniquely identifies data that compose the clip, (c) updating management information for all clips to an index management file with which all clips and edit lists recorded on the disc-shaped recording medium are totally managed, the management information for all clips composed of the obtained reproduction information of data compose each clip, the unique identifier of the data that compose each clip and information that represents a recorded position of data that compose each clip, (d) successively reproducing data that compose all the clips recorded on the disc-

shaped record medium in the order of recordation according to the clip management files or the index management file, and (e) when the disc-shaped record medium is loaded into the photography apparatus, the index management file is read from the disc-shaped record medium and stored to a memory of the photography apparatus and thereafter when the clip recorded on the disc-shaped record medium is designated to be reproduced by a reproduction command of the photography apparatus, the corresponding clip management file for the designated clip is read from the disc-shape record medium and stored to the memory as claimed in claims 8 and 11-13.

David, et al. appears to disclose a signal processing system comprising a recorder 500, 204 for recording information signals representing video, audio and/or data material on a tape 502, 126 (Abstract, lines 1-3).

Thus, *David, et al.* only discloses recording material onto a <u>tape</u>. Nothing in *David, et al.* shows, teaches or suggests a photography apparatus that manages data recorded <u>on a disc-shaped record medium</u> as claimed in claims 8 and 11-13. Rather, *David, et al.* only discloses managing data recorded onto a <u>tape</u>.

Additionally, *David, et al.* appears to disclose a recording apparatus and methods of recording audio and/or video information signals onto a <u>linear</u> recording medium. Correspondingly, a reproducing apparatus and method of reproducing audio and/or video information signals recorded onto a <u>linear</u> recording medium [0003, emphasis added]. In operation, one of the editing terminals 184 is arranged to access the metadata database 176 via the low band width communication channels 182' the editing terminal 184 is therefore provided with access to the metadata 210 describing the content of the audio/video material recorded onto the tape 216. The metadata 216 may include such as the copyright owner, the resolution of the picture and the format in which the video material is encoded, the name of the program and

information such as the data, time and audience. Metadata may further include a note of the content of the audio/video material [0236].

Thus, *David, et al.* only discloses an editing terminal provided with access to metadata such as the copyright owner, resolution of the picture and the format with which the video material is encoded. Nothing in *David, et al.* shows, teaches or suggests obtaining reproduction information necessary to reproduce the data by the photography apparatus as claimed in claims 8 and 11-13. Rather, *David, et al.* only discloses an editing terminal provided with access to the metadata.

Additionally, *David, et al.* only discloses that the metadata includes the resolution of the picture. Nothing in *David, et al.* shows, teaches or suggests that the data is low resolution video data as claimed in claims 8 and 11-13. Rather, *David, et al.* only discloses that the resolution of the picture is stored in the metadata (*i.e.* the resolution information stored in *David, et al.* only discloses the resolution of the picture which could be anything indicating that the picture is stored with a high or medium resolution).

Also, *David, et al.* discloses arranging the metadata objects into a plurality of categories and repeat recording the metadata objects in accordance with the category. This provides a reproducing apparatus arranged in operation to reproduce the information signals with an implicit reference to the number of times the same metadata object has been recorded and therefore in dependence upon the reproducing rate, the reproducing apparatus may determine whether the same metadata object has been read more than once. In this way, a probability of successively recording a metadata object may be increased by allocating the metadata object to a category which has a greater number of predetermined repetitions when recorded. Thus, by accessing the relative importance, the most important information may be allocated to a category

of higher importance and thereby, this information is more likely to be recovered when the metadata and information signals are reproduced [0049]. In a preferred embodiment, for each of the categories of relative importance, the control processer may be arranged in operation to record the same allocated metadata object and each of the plurality of adjacent cells of the recording medium for the predetermined number of times and record a subsequent metadata object allocated to the same category for the predetermined number of times in a corresponding plurality of adjacent cells. Furthermore, the same metadata object may be recorded with reference to a temporal marker recorded with the information signals and the metadata objects. In this way, when the reproducing apparatus is recording the metadata objects, a plurality of cells may be read from the linear recording medium and with reference with temporal marker, the reproducing apparatus may determine whether the same metadata object has been recovered [0050].

Thus, *David, et al.* merely discloses recording the metadata objects repeatedly so that the information is more likely to be recovered when the metadata and information signals are reproduced. Nothing in *David, et al.* shows, teaches or suggests generating clip management files as claimed in claims 8 and 11-13. Rather, *David, et al.* only discloses metadata objects which are repeatedly stored (*i.e.* a metadata file is <u>not</u> a clip management file).

Additionally, *David, et al.* discloses a recorder which includes a first generator for generating first material identifiers for identifying respective pieces of material on the medium and a second generator for generating second universally unique identifiers for pieces of material [0010]. The second identifiers may be generated for each of the first identifiers [0011]. The first identifiers, which need to distinguish the pieces of material on the medium, but need to be universally unique, can thus be smaller than the universally unique identifiers [0012]. A medium

identifier is provided which identifies the medium [0013]. The medium is housed in a housing supporting a data store. The first identifiers are recorded on the medium and the store stores only the last produced of the first identifiers to enable the first generator to produce the first identifiers in a regulated manner [0014]. The use of the first identifiers or the first identifiers plus medium identifier which may be place on the medium and/or in the data store allows existing record medium formats especially tape formats to use the identifiers and be incorporated in a production and distribution system [0015]. The embodiments address the problem of labeling tapes and other recording media by providing the medium identifier [0016]. Providing the metadata packets with a header which contains information which represents the contents of the fields of the packets, facilitates identification of the metadata packets and recovery of the metadata objects from the packets which have been repeatedly recorded [0056]. In Figure 36a, the magnetic tape 34 is shown to include designated areas shown in bold boxes which are representative of the area of the magnetic tape from which information can be recovered by a rotating head 70 at a particular time. The rate at which the magnetic tape is fed past the read/write head 70, 72 is shown to be twice that of the recording rate. Therefore, the amount of information which can be recovered from the linear tracks is correspondingly reduced because conventionally information is recovered at a normal read speed [0303].

Thus, *David, et al.* only discloses using first and second identifiers as well as a medium identifier to label tapes. Nothing is *David, et al.* shows, teaches or suggests updating management information for all clips to an index management file with which all clips and edit lists recorded on the disc-shaped record medium are totally managed, the updated management information includes the obtained reproduction information of data that compose each clip, the unique identifier of the data that composed each clip and information that represents a recorded

position of data that compose each clip as claimed in claims 8 and 11-13. Rather, *David, et al.* only discloses how to label tapes using identifiers.

Also, *David, et al.* merely discloses a control processor may be arranged in operation to change the header information between successive packets recorded repeatedly onto the linear recording medium which have different metadata objects [0057]. Changing the header information between successive packets which have different metadata objects provides a simple and convenient way of recognizing where metadata packets which are repeatedly recorded change from one group to another. By detecting the change of the header information, a reproducing apparatus may determine whether the metadata packets recovered from the recording medium contain more than one metadata packet which is the same. The reproducing apparatus may therefore discard redundant metadata packets which are those which are recovered after a first metadata packet of any one type has been recovered [0058].

Thus, *David, et al.* merely discloses identifying and discarding redundant metadata packets during reproduction. Nothing in *David, et al.* shows, teaches or suggests successively reproducing data in the order of recordation according to the clip management files or the index management files as claimed in claims 8 and 11-13. *David, et al.* only discloses discarding redundant metadata packets during reproduction. Applicants respectfully point out that in a disc-shaped record medium, data recorded to the disc can be in non-sequential order. *David, et al.* is directed to a <u>tape</u> system and thus data is recovered <u>in the order of recordation</u>.

Finally, nothing in *David, et al.* shows, teaches or suggests when the disc-shaped recording medium is loaded into the photography apparatus, the index management file is read from the disc-shaped record medium and stored to the memory of the photography apparatus and thereafter when a clip recorded on the disc-shaped record medium is designated to be reproduced

by a reproduction command of the photograph apparatus, the corresponding clip management file for the designated clip is read form the disc-shaped record medium and stored to the memory as claimed in claims 8 and 11-13.

Takagi, et al. appears to disclose a database that is constructed in which an archival system 40 manages metadata in a concentrated fashion along with the essence such that video and audio data. By a distributed program editing system 10, the metadata input at the planning processing and at the casting processing is registered in the database managed in a concentrated fashion by the archival manager 40a of the archive system 40, at the same time as a tag specifying the registered metadata is issued. This tag is co-packed with the video and audio information obtained on acquisition by an acquisition system (Abstract, lines 6-16).

Thus, *Takagi, et al.* only discloses registering metadata at the same time as a tag is issued. Nothing in *Takagi, et al.* shows, teaches or suggests updating management information for all clips to an index management file with which all clips and edit lists recorded on the disc-shaped recording medium are totally managed, the management information includes the obtained reproduction information of data composing each clip, the unique identifier of the data that compose each clip and information that represents a recorded position of data that compose each clip as claimed in claims 8 and 11-13. Rather, *Takagi, et al.* only discloses registering metadata by an archival manager at the same time as a tag is issued.

Um, et al. appears to disclose a management file includes all created thumbnails and an index file has location information of individual thumbnails included in the mark file. Furthermore, a mark field table allocated in a playlist includes index information of the location information written in the index file for the purpose of later rapid search [0035].

Thus, *Um, et al.* merely discloses a management file including all created thumbnails and an index file having location information of the individual thumbnails. Nothing in *Um, et al.* shows, teaches or suggests an index management file including the obtained reproduction information of data that compose each chip, the unique identifier of the data that compose each chip and information that represents a recorded position of data that compose each chip and a clip management file including the obtained reproduction information of data that compose the chip and an identifier that uniquely identifies data that compose the chip as claimed in claims 8 and 11-13. Rather, *Um, et al.* only discloses a management file which includes all created thumbnails and an index file which has location information of the individual thumbnails.

A combination of *David, et al.*, *Takagi, et al.* and *Um, et al.* would merely suggest to discard redundant metadata packets during reproduction and to label the tapes using a medium identifier as taught by *David, et al.*, to register metadata into an archival system when a tag is issued as taught by *Takagi, et al.* and to have a management file which includes all created thumbnails and an index file which has location information of the individual thumbnails as taught by *Um, et al.* Thus, nothing in the combination of the references shows, teaches or suggests (a) when a disc-shaped record medium is loaded into a photography apparatus, the index management file is read from the disc-shaped record medium and stored into a memory of the photography apparatus and thereafter when a clip recorded on the disc-shaped record medium is designated to be reproduced by a reproduction command of the photography apparatus, the corresponding clip management file for the designated clip is read from the disc-shaped record medium and stored to a memory, (b) obtaining reproduction information necessary to reproduce the data when the data are recorded on a disc-shaped recording medium by the photography apparatus, the data being low resolution video data and video and audio data for

each clip, (c) generating a plurality of clip management files each including the obtained reproduction information of the data that compose the chip and an identifier that uniquely identifies the data that compose the chip, (d) updating management information to an index management file, the management information includes the obtained reproduction information of the data that compose the chip, the unique identifier of the data that compose the chip and information that represents a recorded position of data that compose each chip and (e) successively reproducing data that compose all the clips recorded on the disc-shaped record medium in the order of recordation according to the clip management files or the index management file as claimed in claims 8 and 11-13. Therefore, Applicants respectfully request that the Board of Patent Appeals and Interferences reverses the rejection to claims 8 and 11-13 under 35 U.S.C. § 103. Claims 9-10 stand or fall with claim 8.

VIII. **CONCLUSION**

For all the above stated reasons, Applicants respectfully request the Honorable Board of Patent Appeals and Interferences to reverse the Examiner's decision in this application, since Applicants respectfully submit that the final rejection of claims 8-13 is in error.

In the event that any additional fees are due with this paper, please charge our Deposit Account No. 50-0320.

Respectfully submitted,
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APPENDIX I

CLAIMS

Claims 1-7 (Canceled)

8. (Previously Presented) A photography apparatus that manages data recorded on a disc-shaped record medium, comprising:

information obtainment means for obtaining reproduction information necessary to reproduce the data when the data are recorded on the disc-shaped record medium by the photography apparatus, said data being low resolution video data and video and audio data for each clip;

generation means for generating a plurality of clip management files with which data that compose each clip that is a predetermined structural unit of data are managed, each clip management file describing for one clip (1) the obtained reproduction information of data that compose the clip and (2) an identifier that uniquely identifies data that compose the clip;

registration means for updating management information for all clips, composed of (a) the obtained reproduction information of data that compose each clip, (b) the unique identifier of data that compose each clip, and (c) information that represents a recorded position of data that compose each clip, to an index management file with which all clips and edit lists recorded on the disc-shaped record medium are totally managed; and

successive reproduction means for successively reproducing data that compose all the clips recorded on the disc-shaped record medium in an order of recordation according to the clip management files or the index management file,

wherein when the disc-shaped record medium is loaded into the photography apparatus, the index management file is read from the disc-shaped record medium and stored to a memory

of the photography apparatus and thereafter when a clip recorded on the disc-shaped record medium is designated to be reproduced by a reproduction command of the photography apparatus, the corresponding clip management file for the designated clip is read from the disc-shaped record medium and stored to the memory.

9. (Previously Presented) The photography apparatus as set forth in claim 8,

wherein the registration means registers the management information of the clip to the last end of the index management file.

10. (Previously Presented) The photography apparatus as set forth in claim 8, further comprising:

reproduction means for reproducing data that compose the clip according to the clip management file or the index management file.

11. (Previously Presented) A method of managing data recorded on a disc-shaped record medium by a photography apparatus, comprising the steps of:

obtaining reproduction information necessary to reproduce the data when the data are recorded on the disc-shaped record medium by the photography apparatus, said data being low resolution video data and video and audio data for each clip;

generating a plurality of clip management files with which data that compose each clip that is a predetermined structural unit of data are managed, each clip management file describing for one clip (1) the obtained reproduction information of data that compose the clip and (2) an identifier that uniquely identifies data that compose the clip;

updating management information for all clips, composed of (a) the obtained reproduction information of data that compose each clip, (b) the unique identifier of data that compose each clip, and (c) information that represents a recorded position of data that compose each clip, to an index management file with which all clips and edit lists recorded on the disc-shaped record medium are totally managed; and

successively reproducing data that compose all the clips recorded on the disc-shaped record medium in an order of recordation according to the clip management files or the index management file,

wherein when the disc-shaped record medium is loaded into the photography apparatus, the index management file is read from the disc-shaped record medium and stored to a memory of the photography apparatus and thereafter when a clip recorded on the disc-shaped record medium is designated to be reproduced by a reproduction command of the photography apparatus, the corresponding clip management file for the designed clip is read from the disc-shaped record medium and stored to the memory.

12. (Previously Presented) A program record medium on which a computer readable program is recorded, the program causing a computer of a photography apparatus to perform an information process that manages data recorded on a disc-shaped record medium, the program comprising the steps of:

obtaining reproduction information necessary to reproduce the data when the data are recorded on the disc-shaped record medium by the photography apparatus, said data being low resolution video data and video and audio data for each clip;

generating a plurality of clip management files with which data that compose each clip that is a predetermined structural unit of data are managed, each clip management file describing for one clip (1) the obtained reproduction information of data that compose the clip and (2) an identifier that uniquely identifies data that compose the clip;

updating management information for all clips composed of (a) the obtained reproduction information of data that compose each clip, (b) the unique identifier of data that compose each clip, and (c) information that represents a recorded position of data that compose each clip, to an index management file with which all clips and edit lists recorded on the disc-shaped record medium are totally managed; and

successively reproducing data that compose all the clips recorded on the disc-shaped record medium in an order of recordation according to the clip management files or the index management file,

wherein when the disc-shaped record medium is loaded into the photography apparatus, the index management file is read from the disc-shaped record medium and stored to a memory of the photography apparatus and thereafter when a clip recorded on the disc-shaped record medium is designated to be reproduced by a reproduction command of the photography apparatus, the corresponding clip management file for the designated clip is read from the disc-shaped record medium and stored to the memory.

13. (Previously Presented) A computer implemented program that causes a computer of a photography apparatus to perform an information process that manages data recorded on a disc-shaped record medium, the program comprising the steps of:

obtaining reproduction information necessary to reproduce the data when the data are recorded on the disc-shaped record medium by the photography apparatus, said data being low resolution video data and audio and video data for each clip;

generating a plurality of clip management files with which data that compose each clip that is a predetermined structural unit of data are managed, each clip management file describing for one clip (1) the obtained reproduction information of data that compose the clip and (2) an identifier that uniquely identifies data that compose the clip;

updating management information for all clips, composed of (a) the obtained reproduction information of data that compose each clip, (b) the unique identifier of data that compose each clip, and (c) information that represents a recorded position of data that compose each clip, to an index management file with which all clips and edit lists recorded on the disc-shaped record medium are totally managed; and

successively reproducing data that compose all the clips recorded on the disc-shaped record medium in an order of recordation according to the clip management files or the index management file,

wherein when the disc-shaped record medium is loaded into the photography apparatus, the index management file is read from the disc-shaped record medium and stored to a memory of the photography apparatus and thereafter when a clip recorded on the disc-shaped record medium is designated to be reproduced by a reproduction command of the photography apparatus, the corresponding clip management file for the designated clip is read from the disc-shaped record medium and stored to the memory.

APPENDIX II

EVIDENCE

None

APPENDIX III

RELATED PROCEEDINGS

None